

WHAT IS CLAIMED IS:

1. A kit for applying a body decoration to a subject, comprising:
a color formulation;
means for applying said color formulation to a body area of a subject; and
an electrically powered patch that promotes penetration of said color formulation
5 into said body area.
2. The kit of claim 1, wherein said patch is an iontophoretic patch.
3. The kit of claim 2, wherein said patch comprises:
10 a first electrode;
a second electrode separated from said first electrode; and
a power supply supported on a base member.
4. The kit of claim 3, wherein said power supply comprises at least one
15 electrochemical cell.
5. The kit of claim 3 wherein said power supply further comprises at least one
electronic component.
- 20 6. The kit of claim 4, wherein said electrochemical cell is thin and flexible.
7. The kit of claim 6, wherein said electrochemical cell is up to 4 mm thick.
8. The kit of claim 6, wherein said electrochemical cell is up to 2 mm thick.
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9. The kit of claim 6, wherein said electrochemical cell is up to 1 mm thick.

10. The kit of claim 3, wherein said first electrode is an anode and said second electrode is a cathode.
11. The kit of claim 4, wherein said electrochemical cell comprises:
5 a first layer of insoluble negative pole;
a second layer of insoluble positive pole; and
a third layer of aqueous electrolyte disposed between said first and second layers and including (a) a deliquescent material for keeping said electrochemical cell wet at all times; (b) an electroactive soluble material for obtaining ionic conductivity; and (c) a
10 water-soluble polymer for obtaining a desired viscosity for adhering said first and second layers to said third layer.
12. The kit of claim 4, wherein said electrochemical cell has open architecture.
13. The kit of claim 10, wherein said patch comprises an active electrode, and said active electrode is said anode, said cathode or both said anode and said cathode.
14. The kit of claim 2, wherein said color formulation is selected from the group consisting of a positively charged color formulation, a negatively charged color
20 formulation, a neutral color formulation, and a combination thereof.
15. The kit of claim 1, wherein said color formulation includes at least one of the group consisting of a dye, a pigment, an ink, and a combination thereof.
16. The kit of claim 1, wherein said color formulation is selected from the group consisting of single colors, combinations of colors, mixtures of colors, fluorescent colors, glitter, metallic colors, melanin, skin colors, and any other desirable color suitable for body decoration.
17. The kit of claim 1, wherein said means for applying comprises a stencil having a decorative shape therein.
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18. The kit of claim 1, wherein said means for applying comprises a transferable sheet with a decorative shape thereon.
19. The kit of claim 3, wherein said means for applying comprises said first electrode
5 or said second electrode formed in a decorative shape.
20. The kit of claim 1, further comprising:
a conductive layer comprising a conductive composition disposed between said
patch and said body area, for providing a conductive interfacing layer between said
10 patch and said body area.
21. The kit of claim 20, wherein said conductive composition is a conductive adhesive.
- 15 22. The kit of claim 21, wherein said conductive adhesive is a hydrogel.
23. The kit of claim 20, wherein said color formulation is contained in said conductive composition.
- 20 24. The kit of claim 20, wherein said patch comprises an active electrode and a counter electrode, and said conductive layer is disposed on said active electrode.
25. The kit of claim 20, wherein said patch further comprises an additional conductive layer disposed on said counter electrode.
- 25 26. The kit of claim 24, wherein said color formulation is contained in said conductive composition, and said conductive layer is printed on said active electrode with said color formulation in the desired decorative form.
- 30 27. The kit of claim 24, wherein said conductive layer disposed on said active electrode is preprinted with said color formulation in the desired decorative form, and is not affixed to the active electrode.

28. The kit of claim 24, wherein said conductive layer disposed on said active electrode is in the shape of the body decoration.
- 5 29. The kit of claim 3, wherein said means for applying comprises a decorative template that covers one or more regions of said body area.
30. The kit of claim 29, wherein said decorative template is non-conductive.
- 10 31. The kit of claim 29, wherein said decorative template is made from polyester.
32. The kit of claim 29, wherein said decorative template comprises a cutout in the shape of the body decoration.
- 15 33. The kit of claim 29, wherein said decorative template limits application of said color formulation to those regions of said body area not covered by said template, and limits the electric current flowing from one of the electrodes to said body area to those regions of said body area not covered by said template. .
- 20 34. The kit of claim 1, wherein said body decoration is a tattoo.
35. The kit of claim 1, wherein said body decoration is temporary.
36. The kit of claim 35, wherein said body decoration lasts from about 1 day to
25 about six months.
37. The kit of claim 1, wherein said body decoration is permanent.
38. The kit of claim 1, wherein said body decoration is semi-permanent make-up.
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39. The kit of claim 1, wherein said patch is thin and flexible.

40. The kit of claim 1, wherein said kit is for home use.
41. The kit of claim 1, wherein said patch is less than about 10mm thick.
- 5 42. The kit of claim 3, wherein said power supply comprises a plurality of electrochemical cells.
43. The kit of claim 3, wherein said power supply provides a duty cycle and pulse partition rate of between about 10% and about 90%.
- 10 44. The kit of claim 3, wherein said power supply provides a frequency of from about 1Hz to about 100Hz.
45. The kit of claim 1, wherein said patch facilitates providing an electric current
15 selected from the group consisting of dc current, pulsed current, ac current, and a combination thereof.
46. The kit of claim 1, wherein said patch facilitates supplying an electric current
20 through said means for applying to promote penetration of said color formulation into said body area.
47. The kit of claim 46, wherein said patch supplies electric current in the range of from about 0.02 mAmp/cm² to about 0.5 mAmp/cm².
- 25 48. The kit of claim 4 wherein said electrochemical cell supplies a voltage in a range of from about 0.5V to about 100V.
49. The kit of claim 3, wherein said power supply provides a voltage in a range of from about 0.5V to about 12V.
- 30 50. The kit of claim 49, wherein said voltage is adjusted to promote penetration of said color formulation into said body area.

51. The kit of claim 49, wherein said voltage is adjusted to minimize body area irritation.
- 5 52. The kit of claim 49, wherein said voltage is adjusted to maximize the amount of said color formulation remaining in said body area after said patch is used to apply a body decoration to a subject.
53. The kit of claim 1, wherein the penetration and durability of said body decoration
10 is controlled by at least one parameter selected from the group consisting of iontophoresis parameters, pre-treatment parameters, post-treatment parameters, dye concentration, type of dye, the duration of application of said patch, characteristics of use of a decorative template, fixation of said patch, and a combination thereof.
- 15 54. The kit of claim 1, wherein said body area is selected from the group consisting of skin, nails, teeth, and a combination thereof.
55. The kit of claim 3, wherein said first electrode is made of a conductive material selected from the group consisting of silver, silver chloride, graphite, zinc, platinum,
20 carbon, or a combination thereof.
56. The kit of claim 3, wherein said first electrode and said second electrode are printed electrodes.
- 25 57. The kit of claim 1, where sad patch further comprises attachment means.
58. The kit of claim 1, wherein said patch is a printed patch.
59. The kit of claim 1, wherein said subject is an animal other than a human being.
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60. The kit of claim 59, wherein said body decoration is a mark used to identify animals.

61. The kit of claim 1, further comprising an active medicinal ingredient.
62. The kit of claim 1, further comprising a pre-treatment composition.
- 5 63. The kit of claim 62, where said pre-treatment composition is a peeling composition.
64. The kit of claim 63, wherein said peeling composition is lactic acid in a
10 percentage from about 2% to about 20%.
65. The kit of claim 1, further comprising a post-treatment composition.
66. The kit of claim 65, wherein said post-treatment composition is a sealant.
- 15 67. An iontophoretic patch for applying a body decoration to a subject comprising:
(a) a substrate base layer;
(b) a first electrode attached to said substrate base layer, wherein said first
electrode is an active electrode;
(c) a second electrode attached to said substrate base layer;
(d) a power supply attached to said electrodes for supplying current to said
20 electrodes;
(e) a conductive layer disposed on said first electrode for providing a conductive
interface between said first electrode and a body area of said subject; and
(f) a color formulation on said first electrode;
wherein said patch promotes penetration of said color formulation into said body area to
25 form said body decoration.
68. The patch of claim 67, further comprising an additional conductive layer disposed
on said second electrode.

69. The patch of claim 67, wherein said power supply comprises at least one thin and flexible electrochemical cell.
70. The patch of claim 67, wherein said patch is thin and flexible.
- 5 71. The patch of claim 67, wherein said patch is a printed patch.
72. The patch of claim 67, wherein said conductive layer is a hydrogel.
- 10 73. The patch of claim 67, wherein said first active electrode is in the shape of said body decoration and said conductive layer is in the shape of said body decoration.
74. The patch of claim 67, wherein said conductive layer comprises said color formulation.
- 15 75. The patch of claim 67, further comprising a decorative template that covers one or more regions of said body area and that is on said conductive formulation on said first electrode.
- 20 76. The patch of claim 75, wherein said decorative template is made of an insulated material.
77. The patch of claim 75, wherein said decorative template is made from polyester.
- 25 78. The patch of claim 75, wherein said decorative template comprises a cutout in the shape of said body decoration.
79. The patch of claim 75, wherein said decorative template limits application of said color formulation to those regions of said body area not covered by said template, and
- 30 limits the electric current flowing from said first electrode to said body area to those regions of said body area not covered by said template.

80. The patch of claim 67, wherein said body decoration is a tattoo.
81. The patch of claim 67, wherein said body decoration is semi-permanent make-up.
82. An iontophoretic patch for applying a body decoration to a subject comprising:
(a) a first electrode, wherein said first electrode is an active electrode;
5 (b) a second electrode;
(c) a power supply attached to said electrodes for supplying current to said electrodes; and
(d) a color formulation on said first electrode;
wherein said patch promotes penetration of said color formulation into a body area of
10 said subject to form said body decoration.
83. The iontophoretic patch of claim 82, further comprising a substrate base layer.
84. The iontophoretic patch of claim 82 further comprising a conductive layer
15 disposed on said first electrode for providing a conductive interface between said first electrode and said body area.
85. The iontophoretic patch of claim 84, further comprising an additional conductive layer disposed on said second electrode for providing a conductive interface between
20 said second electrode and said body area.
86. An iontophoretic patch for applying a body decoration to a body area of a subject and for treating said body area, comprising:
(a) a substrate base layer;
(b) a first electrode attached to said substrate base layer, wherein said first electrode is an active electrode;
(c) a second electrode attached to said substrate base layer;
25 (d) a power supply attached to said electrodes for supplying current to said electrodes;

- (e) a conductive layer disposed on said first electrode for providing a conductive interface between said first electrode and said body area;
 - (f) a color formulation on said first electrode; and
 - (g) an active medicinal composition for treating said body area;
- 5 wherein said patch promotes penetration of said color formulation into said body area and promotes penetration of said active medicinal composition into said body area.

87. The patch of claim 86, further comprising an additional conductive layer disposed on said second electrode for providing a conductive interface between said second
10 electrode and said body area.

88. The patch of claim 86, wherein said treating is selected from the group consisting of treatment of acne, wrinkles, skin discoloration, excessive skin coloration, skin puffiness, scarring, dry skin, oily skin, imbalance of skin pH, and a combination
15 thereof.

89. A patch for removing a body decoration from a body area of a subject comprising:

- (a) a substrate base layer;
- (b) a first electrode attached to said substrate base layer, wherein said first electrode is an active electrode;
- (c) a second electrode attached to said substrate base layer;
- 20 (d) a power supply for supplying current to said electrodes;
- (e) a conductive layer disposed on said first electrode for providing a conductive interface between said first electrode and said body area; and
- (f) a color formulation collecting chamber;

wherein said patch removes a color formulation from a body decoration and delivers
25 said color formulation to said collecting chamber.

90. An iontophoretic patch for removing a body decoration from a body area of a subject comprising:

- (a) a substrate base layer;

(b) a first electrode attached to said substrate base layer, wherein said first electrode is an active electrode;

(c) a second electrode attached to said substrate base layer;

(d) a power supply for supplying current to said electrodes;

5 (e) a conductive layer disposed on said first electrode for providing a conductive interface between said first electrode and said body area; and

(f) a removal formulation;

wherein said iontophoresis patch delivers said removal formulation to said body decoration to remove said body decoration.

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91. A kit for applying a body decoration to a body area of a subject, comprising:
a color formulation; and

an electrically powered patch that promotes penetration of said color formulation into said body area.

92. The kit of claim 91, wherein said color formulation is applied to said body area by
15 free-hand drawing.

93. A method of applying a body decoration to a subject, comprising the steps of:
contacting a body area of said subject with a means for applying;
applying a color formulation to said body area with said means for applying; and
20 promoting penetration of said color formulation into said body area with an electrically powered patch in contact with said formulation.

94. The method of claim 93, wherein said step of contacting a body area comprises
adhering a stencil to said body area.

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95. The method of claim 94, wherein said step of applying comprises applying said color formulation through said stencil to said body area.

96. The method of claim 93, wherein said step of contacting a body area comprises
30 adhering a transferable sheet having said color formulation thereon to said body area.

97. The method of claim 96, wherein said step of applying comprises transferring said color formulation from said transferable sheet to said body area.

5 98. The method of claim 93, wherein said electrically powered patch is an iontophoretic patch.

99. The method of claim 96, wherein said transferable sheet comprises conductive elements configured to the shape of said body decoration.

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100. The method of claim 99, wherein the resistance of said conductive elements is adjustable to control depth of penetration.

101. The method of claim 93, wherein said step of contacting a body area comprises
15 contacting said body area with an active electrode in the shape of said body decoration, and wherein said electrode further comprises a conductive composition and a colored formulation in the shape of said body decoration.

102. The method of claim 93, wherein said step of promoting penetration comprises
20 the use of an iontophoretic patch that provides an electric current to said body area after said step of applying said color formulation.

103. The method of claim 102, wherein said electric current is between from about
25 0.02 mAmp/cm² to about 0.5 mAmp/cm².

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104. The method of claim 93, further comprising the step of :
applying a pre-treatment to said body area prior to said step of contacting a body area.

105. The method of claim 104, wherein said pre-treatment is a peeling composition.

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106. The method of claim 104, wherein said pre-treatment is a cleanser.

107. The method of claim 93, further comprising the step of:
applying a sealant to said body area after said step of promoting penetration.
108. The method of claim 93, wherein said color formulation comprises an ink, the ink
5 comprising colorant, a chemical base, and additives.
109. The method of claim 108, wherein said colorant comprises a dye, a pigment, or a
combination thereof.
- 10 110. The method of claim 108, wherein said additives comprise at least one of a
buffering agent, a resin, an adhesive, and a humectant.
111. The method of claim 93, wherein said body area comprises at least one of skin,
nails, teeth, hair, and lips.
- 15 112. The method of claim 93, wherein said step of promoting penetration comprises
contacting said body area with said patch for a time period up to about 10 hours.
113. The method of claim 93, wherein said step of promoting penetration comprises
20 contacting said body area with said patch for a time period up to about 2 hours.
114. The method of claim 93, further comprising the step of selecting a type of color
formulation, the colors of the color formulation and the design to be applied.
- 25 115. The method of claim 93, wherein said body decoration is a tattoo.
116. The method of claim 93, wherein said body decoration is semi-permanent make-
up.
- 30 117. A method for applying a body decoration to a subject comprising the steps of:
(a) providing an iontophoretic patch for body decoration comprising:
(i) a first electrode, wherein said first electrode is an active electrode;

- (ii) a second electrode;
- (iii) a power supply for supplying current to said electrodes ;
- (iv) a conductive layer disposed on said first electrode for providing a
conductive interface between said first electrode and a body area of said
5 subject; and
- (v) a color formulation on said first electrode;
- wherein said patch promotes penetration of said color formulation into said body
area to form said body decoration;
- 10 (b) contacting said body area with said iontophoretic patch for a time period
wherein said patch promotes penetration of said color formulation into
said body area to form said body decoration; and
- (c) removing said iontophoretic patch from said body area.